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## The Polyporaceae of North America---VII. The genera *Hexagona*, *Grifola*, *Romellia*, *Coltricia* and *Coltriciella*

WILLIAM ALPHONSO MURRILL

In the last article of this series (Bull. Torrey Club, **31** : 29-44. 1904), the tough, wood-loving, central-stemmed polypores were discussed under the genus *Polyporus*. The genus *Hexagona* is in general readily distinguished from *Polyporus* by its lateral stem and peculiar pores, but the two genera approach very near to one another in some of their forms. Species of *Grifola* are large, fleshy to tough and much branched, usually growing at the bases of trees or arising from buried wood. The genera *Romellia*, *Coltricia* and *Coltriciella*, although belonging to the brown-fleshed section, are conveniently introduced here because their species are stipitate and are ordinarily associated with the stipitate forms already discussed. This latter group, moreover, is indirectly related to *Grifola* through the genus *Romellia*, with its hyaline spores, large, irregular pileus and thick, rather fleshy substance.

HEXAGONA Poll. Pl. Nov. 35. *pl.* 2, 3. 1816.

This genus was founded upon *Hexagona Mori*. The genus *Favolus* was based on *Favolus hirtus*. Both genera are monotypic in origin. Unfortunately the two were interchanged by Fries, who was unfamiliar with the species, and they have been improperly used ever since. In the *Systema*, Fries followed Beauvais and included *Hexagona* under the subgenus *Favolus* of *Polyporus*. In the *Epicrisis*, Fries includes *F. hirtus*, Beauvais' type, in the genus *Hexagona* and follows it with *H. Mori*, Pollini's type. He then begins his genus *Favolus* with *F. europaeus*, a synonym of *H. Mori*.

The genus *Hexagona* comprises species with radially elongated pores having normally six angles. In some species, the usual form of the pores is not so evident, but general appearance and habit serve to indicate generic limits. The line of demarcation between this genus and *Polyporus* is difficult to draw. Most of the species of *Hexagona* are laterally stipitate or almost sessile, but

some of them vary to centrally stipitate forms and a few species are regularly mesopous. All grow upon dead wood and agree closely in habit and host plants. One American species is common also in Europe, the others are limited to either temperate or to tropical regions of America. Many of them are very imperfectly known.

#### Synopsis of the North American species

- |  |                               |
|--|-------------------------------|
| 1. Tubes unequally hexagonal, the radial walls longer.   | 2.                            |
| Tubes equally hexagonal  | 15.                           |
| 2. Pileus white or nearly so.  | 3.                            |
| Pileus purple or brown.  | 12.                           |
| 3. Surface of pileus glabrous or minutely hairy or fibrillose, not distinctly hispid or tomentose.                               | 4.                            |
| Surface of pileus distinctly hispid or tomentose.  | 9.                            |
| 4. Pileus reniform at maturity, stipe usually much reduced; species not tropical.  | 5.                            |
| Pileus flabelliform, stipe usually very distinct, equalling the pileus at times in length; species tropical.                     | 6.                            |
| 5. Tubes large, surface of pileus decorated with imbricated reddish-brown fibrils, which disappear with age.                     | 1. <i>H. alveolaris</i> .     |
| Tubes much smaller, the mouths rarely over 1 mm. long and 0.5 mm. broad, surface of pileus glabrous.                             | 2. <i>H. micropora</i> .      |
| 6. Tubes of medium size; pileus large and tough, margin not ciliate.   | 3. <i>H. daedalea</i> .       |
| Tubes large, mouths 1-2 mm. broad and 3-5 mm. long.  | 7.                            |
| 7. Margin much lobed and fissured at maturity.   | 4. <i>H. Wilsonii</i> .       |
| Margin entire.   | 8.                            |
| 8. Pileus small, 5 cm. in breadth.   | 5. <i>H. hispidula</i> .      |
| Pileus large, 10 cm. in breadth.   | 6. <i>H. princeps</i> .       |
| 9. Surface not tessellated.  | 10.                           |
| Surface tessellated.   | 11.                           |
| 10. Tubes large, the mouths 1 x 4 mm., becoming radially confluent and gill-like; context only partially translucent.            | 7. <i>H. fragilis</i> .       |
| Tubes small, the mouths about half as large as in the preceding and not becoming confluent; context thinner, wholly translucent. | 8. <i>H. floridana</i> .      |
| 11. Pileus small, thin and fragile, the surface minutely checkered.  | 9. <i>H. tessellatula</i> .   |
| Pileus large, thick and firm, the surface coarsely checkered.  | 10. <i>H. caperata</i> .      |
| 12. Pileus purple or purplish-brown, stipe lateral or excentric.   | 13.                           |
| Pileus brown, stipe distinctly central.  | 14.                           |
| 13. Tubes meruloid.  | 11. <i>H. brunneola</i> .     |
| Tubes of normal length.  | 12. <i>H. purpurascens</i> .  |
| 14. Margin entire.   | 13. <i>H. portoricensis</i> . |
| Margin ciliate.  | 14. <i>H. hondurensis</i> .   |

- |                         |                           |
|-------------------------|---------------------------|
| 15. Pileus purple.      | 15. <i>H. indurata</i> .  |
| Pileus yellow or brown. | 16.                       |
| 16. Margin papulose.    | 16. <i>H. cucullata</i> . |
| Margin not papulose.    | 17. <i>H. Taxodii</i> .   |

### 1. *Hexagona alveolaris* (DC.).

- Merulius alveolaris* DC. Fl. Fr. 6: 43. 1815.  
*Hexagona Mori* Poll. Pl. Nov. 35. *pl.* 2, 3. 1816.  
*Boletus arcularius* Schw. Syn. Car. 69. 1818.  
*Cantharellus alveolaris* Fr. Syst. Myc. 1: 322. 1821.  
*Favolus canadensis* Kl. Linnaea, 7: 197. 1832.  
*Favolus europaeus* Fr. Epicrisis, 498. 1838.  
*Favolus ohioensis* Berk & Mont. Syll. Crypt. 171. 1856.  
*Favolus alveolaris* Quél. Enchiridion, 185. 1886.—Fairman, Proc. Rochester Acad. Sci. 2: 162. 1895.

This common and widely distributed species has been several times described, the earliest name having been assigned to specimens from Europe. No mention is made of the American plant in the description of *M. alveolaris* from southern France. The plant was apparently known to Fries under its earliest name in 1821, but in 1838 he redescribed it under the name *Favolus europaeus*, even the genus being different. *F. canadensis* was described from a single specimen in Hooker's herbarium. The excellent description of *F. ohioensis* was drawn from several specimens sent from Columbus, Ohio, by Sullivan. In addition to the names listed above, the species has been reported under several others, notably *F. Boucheanus* Kl. (Linnaea, 8: 316. *pl.* 5. *f.* 2. 1833) and *F. alutaceus* Berk. & Mont. (Ann. Sci. Nat. Bot. III. 11: 240. 1849). The former was originally collected by Bouché on dead trunks of birch at Lankwitz near Berlin. The latter was described from Bahia, Brazil, and probably does not extend even into tropical America. Faded specimens of *H. alveolaris*, collected especially in the South during late autumn or winter, resemble the Brazilian species in some ways, but authentic plants show them to be very distinct. Var. *peponinus* B. & C. of *F. Boucheanus* was doubtless based on these same faded forms of our common species.

In the exsiccati listed, only American material is considered. The species grows upon dead wood, usually fallen limbs, of vari-

ous deciduous trees. In New York it appears to be most common on species of hickory: Canada, *Dearness*, *Macoun*; New Hampshire, *Lobenstine*; Connecticut, *White*, *Earle*; New York, *Underwood*, *Clinton*, *Brown*, *Murrill*, *Overacker*, *Earle*; Pennsylvania, *Haines*, *Everhart*; New Jersey, *Ellis*; Ohio, *James*, *Morgan*; Virginia, *Murrill*; Georgia, *Ravenel*; Alabama, *Earle*; Michigan, *Hicks*, *Johnson*; Wisconsin, *Calkins*; Montana, *Anderson*.

### 2. *Hexagona micropora* sp. nov.

Pileus flabelliform to reniform, convex, usually umbilicate or depressed behind,  $2-4 \times 2.5 \times 0.2-0.4$  cm.; surface smooth, glabrous, straw-colored to cream-colored, margin acute, undulate or slightly lobed, rarely reflexed, irregularly denticulate, dark brown, as if scorched: context white, 1-2 mm. thick; tubes decurrent, ochraceous, 1-2 mm. long, mouths 4-6 angled,  $0.3-0.5 \times 0.6-1$  mm., edges rather firm, beset with small, sharp teeth; spores ellipsoidal, smooth, hyaline,  $3 \times 9 \mu$ ; stipe lateral to excentric, slightly enlarged below, concolorous, minutely tomentose to subglabrous, 1-7 mm. long, 3-5 mm. thick.

The type plants of this species were collected by Miss V. S. White on a dead birch tree at Bar Harbor, Maine, August 4, 1901. Other collections are at hand from Ohio, *Kelsey*; New York, *Britton*; New Jersey, *Ellis*; Wisconsin, *Baker*. Specimens were also found in the Fries herbarium at Upsala sent from New York by Peck. In habit and general appearance it resembles *H. alveolaris*, but it is much rarer and seems confined to the northern states, while the glabrous surface and very much smaller tubes easily distinguish it from that species.

### 3. *Hexagona daedalea* (Link)

*Merulius daedaleus* Link, Dissert. 1: 37. 1795.

*Daedalea braziliensis* Fr. Syst. Myc. 1: 332. 1821.

*Favolus braziliensis* Fr. Elench. Fung. 44. 1828; Linnaea, 5: 511. pl. 11. f. 1. 1830.

This species was originally described from Brazil, but it extends as far north as Florida and is quite abundant in tropical America on fallen trunks and other decayed timber. Besides the synonyms cited above, there are doubtless several more recent ones assigned by those who have worked over South American material. On the other hand, some species have been treated as

forms of this one which are really distinct. *Favolus tessellatus* Mont. (Ann. Sc. Nat. II. Bot. 20: 365. 1843), a good Brazilian species, was at first determined as *F. braziliensis* by Montagne and later separated because of its distinctly tessellated or checkered surface and regularly hexagonal pores. Cuban specimens called *F. tessellatus* are plainly *F. braziliensis*, and are so determined at Kew by Montagne.

*Exsiccatae*: Texas, *Wright*; Louisiana, *Hale*, *Langlois*; Cuba, *Underwood & Earle*; San Domingo, *Wright*; Brazil, *Telinck*.

#### 4. *Hexagona Wilsonii* sp. nov.

Pileus flabelliform, applanate,  $4-7 \times 4-9 \times 0.05-0.2$  cm.; surface radiate-striate, slightly hispid, partially tessellate, pure white, becoming cream-colored on drying; margin at maturity very thin, usually much lobed and fissured, beset with short, fugacious hairs: context fleshy-tough, membranous, white, partially or wholly translucent; tubes decurrent, white, 1-2 mm. long, 4-6 angled, mouths  $1.5 \times 5$  mm., smaller near the margin, edges very thin, splitting into irregular teeth; spores ellipsoidal, smooth, hyaline,  $5 \times 10 \mu$ ; stipe exactly lateral, equal, concolorous, hispid, 0.5-1 cm. long, 2.5-5 mm. thick, often umbilicate above where it expands into the pileus.

This elegant species was collected by Percy Wilson (*no.* 317) in July, 1902, in the Luquillo mountains, Porto Rico, three miles from the coast. Decaying logs along a mountain stream were found covered with the fruit-bodies.

#### 5. *Hexagona hispidula* (B. & C.)

*Favolus hispidulus* B. & C. Jour. Linn. Soc. Bot. 10: 321. 1868.

Collected on trunks in Cuba by Wright.

#### 6. *Hexagona princeps* (B. & C.)

*Favolus princeps* B. & C. Jour. Linn. Soc. Bot. 10: 321. 1868.

Collected on dead wood in Cuba by Wright. The type is at Kew. It is a large, handsome species.

#### 7. *Hexagona fragilis* sp. nov.

Pileus flabelliform, convex, depressed behind,  $2-3 \times 2-4 \times 0.1-0.3$  cm.; surface densely hispid, especially behind, faintly radiate-striate, pure white, becoming straw-colored in drying; margin

quite thick for the genus, nearly regular in outline, usually inflexed when dry, partly hygrophanous at times, beset with short, fimbriate, fugacious hairs: context thin, white, partially translucent, quite fragile when dry; tubes decurrent, white, 2–3 mm. long, 4–6 angled, mouths  $1 \times 4$  mm., becoming radially confluent and gill-like, edges thin, lacerate, the divisions fimbriate; spores ellipsoidal, smooth, hyaline,  $4-5 \times 10 \mu$ ; stipe lateral, subequal, concolorous, hispid, short, 5 mm. long, 2.5 mm. thick, rarely umbilicate above.

About twenty specimens of this plant were collected by Earle (no. 585) during a recent visit to Jamaica. They were found on fence-posts made of "star-apple" (*Chrysophyllum*).

#### 8. *Hexagona floridana* sp. nov.

Pileus flabelliform, applanate, depressed behind,  $2 \times 2.5-3 \times 0.2$  cm.; surface finely hispid, pure white becoming straw-colored on drying, faintly radiate-striate; margin slightly undulate, tessellate at times, fringed with numerous slender cilia: context very thin, white, membranous, wholly translucent; tubes decurrent, white, becoming ochraceous, 1.5–2 mm. long, normally hexagonal, mouths  $0.5-1 \times 2-3$  mm., not radially confluent, edges thin, fimbriate; spores ellipsoidal, smooth, hyaline,  $9 \times 4 \mu$ ; stipe lateral, subequal, scutate at the base, concolorous, hispid, 2–5 mm. long, 1–2 mm. thick, always umbilicate above.

This species was collected by Small & Wilson near Miami, Florida, May, 1904. About thirty sporophores in various stages of development were taken from an old decaying log in rich shady woods.

#### 9. *Hexagona tessellatula* sp. nov.

Pileus flabelliform, convex, depressed behind,  $1-3 \times 2-4 \times 0.2$  cm.; surface delicately and closely tessellate, finely hispid, becoming glabrous, white, yellowish when dry; margin thin, denticulate, slightly incurved when dry, frequently brown and hygrophanous: context white, membranous, translucent; tubes decurrent, white, 2 mm. long, 4–6 angled, mouths  $1 \times 3$  mm., at length radially confluent, edges thin, lacerate; spores ellipsoidal, smooth, hyaline, 2-guttulate,  $3 \times 10 \mu$ ; stipe lateral, short, slightly enlarged below, concolorous, hispid, 3–5 mm. long, 2–3 mm. thick, usually umbilicate above.

This species was recently collected on dead wood in Cuba by Underwood and Earle (no. 1212). About twenty fruit-bodies were preserved.

10. *Hexagona caperata* (Pat.)

*Favolus caperatus* Pat. Bull. Soc. Myc. 18: 171. 1902.

Described from Guadeloupe collections. Easily recognized by the abundant villosity which covers the cap. Plants recently collected by Earle at Port Antonio, Jamaica, agree well with the description.

11. *Hexagona brunneola* (B. & C.)

*Favolus brunneolus* B. & C. Jour. Linn. Soc. Bot. 10: 321. 1868.

Collected on dead wood in Cuba by Wright. One small specimen is at Kew. The tubes are merulioid in their brevity, the dissepiments being mere lines. I was at first inclined to consider the species an undeveloped stage of *H. purpurascens*, but the two species were originally described at the same time and declared by their authors to be most distinct.

12. *Hexagona purpurascens* (B. & C.)

*Favolus purpurascens* B. & C. Jour. Linn. Soc. Bot. 10: 321. 1868.

Collected by Wright on trunks in Cuba. Easily distinguished from most other species by its purple color.

13. *Hexagona portoricensis* sp. nov.

Pileus centrally stipitate, circular, deeply umbilicate,  $\times 4$  0.3 cm.; surface subglabrous, umbrinous, the centre concolorous; margin entire, not very thin, much inflexed when dry; context white, fibrous, 1 mm. thick, opaque; tubes somewhat decurrent, white, 2 mm. long, 4-6 angled, mouths  $1 \times 3$  mm., smaller and more regular near the margin, edges thin, fimbriatulate; spores ellipsoidal, smooth, hyaline, 2-guttulate,  $3-5 \times 8-10 \mu$ ; stipe central, compressed, slightly tapering downward, subconcolorous, minutely tomentose, 2 cm. long, 4 mm. thick.

The above description is based on no. 145 of Earle's Portorican collections. The plant was found upon decaying wood in the mountains at an altitude of 2,000 feet. It has many characters in common with *H. hondurensis*.

14. *Hexagona hondurensis* sp. nov.

Pileus centrally stipitate, circular, slightly umbilicate,  $2-4 \times 0.05$  cm.; surface faintly radiate-striate, subglabrous, fulvous, the center fuliginous; margin thin, regular, tessellate, inflexed when



dry, fringed with numerous short, fugacious cilia: context white, fibrous, 0.25 mm. thick, translucent near the margin; tubes adnate, white, 0.3 mm. long, hexagonal, radially elongated, mouths  $1 \times 2$  mm., much smaller near the margin, edges thin, subentire; spores ellipsoidal, smooth, hyaline,  $3.5 \times 9 \mu$ ; stipe central, equal, concolorous, pruinose to glabrous, 2–3 cm. long, 2 mm. thick.

This species is described from plants collected in Honduras by Percy Wilson (*no. 640*) March, 1903. They grew on dead logs by the shore of a lagoon not far from the coast. All stages are represented.

15. *Hexagona indurata* (Berk.)

*Favolus induratus* Berk. Ann. Nat. Hist. II. 9: 198. 1852.

Collected on wood in San Domingo. The type plants are at Kew. If the tubes alone were considered, this species would belong rather with *Favolus*. It differs from *H. cucullata* in having larger tubes, and being purple in color.

16. *Hexagona cucullata* (Mont.)

*Favolus cucullatus* Mont. Pl. Cell. Cuba, 378. *pl. 14. f. 2.* 1842.

Montagne's type from Cuba is well described and figured in the work cited. Although the tubes are regularly hexagonal, it seems best to place the species in *Hexagona* because of general appearance, structure and habit. Berkeley considered *Favolus curtipes* B. & C. (Kew Misc. 1: 234. 1849) a synonym of Montagne's species, remarking that plants collected in San Domingo exactly connect the Cuban species with that described from South Carolina.

17. *Hexagona Taxodii* sp. nov.

Pileus reniform, applanate, umbonate-sessile,  $3-6 \times 6-8 \times 0.2$  cm.; surface glabrous, radiate-striate, cream-colored to ochraceous, marked with two or three broad undulations from center to margin, which is thin, entire, irregularly undulate or lobed and deflexed when dry: context tough, white, homogeneous, 0.5 mm. thick; tubes dark fulvous, hexagonal, not radially elongated, 1.5 mm. long, 1 mm. wide, edges thin, finely denticulate; spores ellipsoidal, smooth, hyaline,  $14 \times 7 \mu$ , copious; stipe a mere scutate disk nearly a centimeter in breadth.

The type collection of this species was made by Small & Wilson near Miami, Florida, May, 1904. The sporophores were

found a few feet from the ground on a decaying standing trunk of cypress (*Taxodium distichum*) in damp rich woods near the Miami river. Other plants were collected near the type locality by Mr. McCullough of the Miami Experiment Station.

## SPECIES INQUIRENDÆ

*Favolus Friesii* B. & C. Jour. Linn. Soc. Bot. 10 : 321. 1868. First collected on decayed wood at San José, Costa Rica, and called *Favolus lacerus* by Fries, who later (Nov. Symb. 104. 1851) assigned it to *F. flaccidus* Fr. (Linnaea, 5 : 511. 1830), a species collected in Brazil by Beyrich, in whose herbarium it was called *Cantharellus aequinoctialis* Link. The original name was changed by Berkeley and Curtis because of *Favolus lacerus* Lév., described from Java. The Cuban plant at Kew seems only a form of *H. daedalea*, but it is very likely that the one from Costa Rica is different.

*Favolus curtipes* B. & C. Hook. Jour. Bot. 1 : 234. 1849. "Pileus reniform, two inches broad, one and one-half inches long, quite smooth, rigid, and tawny when dry. Stem extremely short, disciform. Pores one-thirty-sixth of an inch broad, pale, undulated, and crisped; edge white." Said by the authors to differ from *F. cucullatus* Mont. in having less rigid and smaller pores and more fleshy substance.

*Favolus guadalupensis* Lév. Ann. Sc. Nat. III. Bot. 5 : 144. 1846. Collected on trunks in Guadeloupe by L'Herminier. Infundibuliform specimens of *H. daedalea* agree fairly well with the description of this species.

*Favolus velutipes* Fr. Nov. Symb. 104. 1851. Collected by Oersted at San José, Costa Rica. Pileus fan-shaped, smooth, ferruginous; stipe very short, pubescent.

GRIFOLA S. F. Gray, Nat. Arr. Brit. Pl. 1 : 643. 1821.

*Polypilus* Karst. Rev. Myc. 3 : 17. 1881.

*Meripilus* Karst. Bidr. Finlands Nat. och Folk. 37 : 33. 1882.

*Cladomeris* Quél. Enchiridion, 167. 1886.

The genus *Grifola* was founded on *Grifola frondosa* and five other species with lateral stem and semicircular cap, *i. e.*, *G. platypora*, *G. cristata*, *G. lucida*, *G. badia* and *G. varia*. Of these

last only *G. cristata* is congeneric with the type, the others belonging to *Polyporus* and *Ganoderma*. In Karsten's arrangement of the group, *P. frondosus* with *P. confluens* and *P. sulfureus* form the basis of a new genus, *Polypilus*, Gray's genus *Grifola* not being considered. So, again, Quélet establishes his genus *Cladomeris* on *P. umbellatus* and sixteen other species, ignoring the work of both Karsten and Gray.

The plants of the genus *Grifola* are large and striking in appearance and sometimes attractive in coloring. They are intricately branched or irregularly lobed, fleshy or fleshy-tough in substance, with white context and spores and large, irregular tubes, which become friable or lacinate with age. They are usually found on or near dead wood in some form, either attached to buried sticks or roots or growing close to the base of a tree trunk. This latter habitat is a favorite one for at least four members of the genus, and the tree is usually an oak.

The distribution of members of this genus is quite general. Two of our species occur also in the Eastern hemisphere and two others are represented there by nearly related plants. *G. frondosa* may be said to be abundant, *G. poripes* and *G. Berkeleyi* are fairly well known and the remaining three are rare, *G. ramosissima* being more common, however, in Europe than in America.

Owing to the difficulty of handling such large forms and the changes which they undergo in drying, many mistakes are current concerning these plants. It is not easy to gain a just conception of an entire plant from one of its minute divisions, and in this, as well as in other groups, form and habit of growth count for much. If some of the existing errors have been eradicated by these studies, there is yet much to learn with regard to known species and more concerning those whose standing is still in doubt.

#### Synopsis of the North American species

1. Hymenium ochraceous, becoming dirty-yellow with age, plants terrestrial, irregularly confluent, olivaceous to greenish-yellow. 1. *G. poripes*.  
Hymenium at first fuliginous, becoming paler. 2. *G. Sumstinei*.  
Hymenium white or pallid from the first. 2.
2. Surface of pileus gray or grayish-brown to coffee-colored, stipe intricately branched, pileoli very numerous and small. 3.  
Surface of pileus pallid or alutaceous, stipe not intricately branched, lobes usually few in number and comparatively large. 4.

- |   |                            |
|---|----------------------------|
| 3. Pileoli lateral, spatulate or dimidiate.   | 3. <i>G. frondosa</i> .    |
| Pileoli centrally attached, circular and umbilicate.  | 4. <i>G. ramosissima</i> . |
| 4. Sporophore of immense size, 20-60 cm. in diameter, spores echinulate, 8-9 $\mu$ .                | 5. <i>G. Berkeleyi</i> .   |
| Sporophore small for the genus, only 8 cm. or less in diameter, spores smooth, ovoid, much smaller. | 6. <i>G. fractipes</i> .   |

### 1. *Grifola poripes* (Fr.)

*Polyporus poripes* Fr. Nov. Symb. 48. 1851.

*Polyporus flavovirens* B. & Rav. Grevillea, 1: 38. 1872.

Small plants of this species from the collections of Curtis were described by Fries in 1851. Somewhat older plants were later renamed by Berkeley and Ravenel, the name referring to the very characteristic mixture of yellow and green in the plant as it develops. Most of the herbarium specimens of this species are young and do not properly show the systematic position of the plant, its relationship clearly being with *Grifola* instead of *Scutiger*. It occurs on the ground in woods, rising from a tubercle and spreading broadly in irregular lobes. The substance is eaten by insect larvae. Specimens have been examined from Massachusetts, *Blake, Ricker*; Canada, *Dearness*; New York, *Long*; Delaware, *Commons*; New Jersey, *Ellis*; Ohio, *Morgan*; Pennsylvania, *Everhart*; Virginia, *Murrill*; and Carolina, *Ravenel*. It is fairly common and always eagerly picked by collectors. A good description of it may be found in the Journal of Mycology for January, 1886. Ellis there makes some corrections in the original description of Berkeley and Ravenel.

### 2. *Grifola Sumstinei* sp. nov.

A very large plant resembling *G. frondosa* in habit and general appearance, but with fewer and broader pileoli, darker surface and darker hymenium. Pileus imbricate-multiplex, 20 x 30 cm., pileoli flabelliform to spatulate, 6-8 x 6-8 x 0.3-0.5 cm.; surface radiate-rugose, finely tomentose, light to dark brown; margin very thin, fissured and strongly inflexed when dry: context white, fibrous, fleshy-tough to almost leathery, 0.3 cm. thick; tubes 0.2 cm. long, 7 to a mm., at first fuliginous, becoming pallid at maturity, polygonal, irregular, edges very thin and fragile, becoming lacerate; spores globose, smooth, hyaline, thin-walled, copious, 5  $\mu$ : stipe tubercular, woody, blackish below, connate-ramose, lighter-colored, passing insensibly into the pileoli above.

This species is found about old stumps and trunks during the autumn. It has been collected three times in as many different states. Morgan determined it as *P. giganteus* Pers., a European species which it resembles in habit and coloring. His specimen from Ohio is rather small and undeveloped. A still smaller plant, only 4 cm. high, is in the Langlois collection from Louisiana. The type plants of the species, however, were sent this year to the New York Botanical Garden from Pennsylvania by Professor D. R. Sumstine. They are large and well developed and show both the immature and the mature hymenium in a highly satisfactory manner. I take pleasure in dedicating the species to Professor Sumstine.

3. *GRIFOLA FRONDOSA* (Dicks.) S. F. Gray

*Boletus frondosus* Dicks. Crypt. Brit. 1: 18. 1785.

*Polyporus frondosus* Fr. Syst. 1: 355. 1821.

*Grifola frondosa* S. F. Gray, Nat. Arr. Brit. Pl. 1: 643. 1821.

*Polypilus frondosus* Karst. Rev. Myc. 3: 17. 1881.

This species is commonly found at the base of oak trees. It is very large, intricately branched, fleshy to tough, and usually grayish in color. It varies considerably and has several names. The European and American forms do not appear to differ very much, and I have also been unable to distinguish it in herbarium material from such species as *P. intybaceus* and *P. anax*, the shape of the spores being rather variable and uncertain in this group. Quite a full description of the present species is given in the Journal of Mycology for January, 1886. Exsiccati are very abundant. Most European collectors have distributed it and it has been reported from nearly every state in this country, *e. g.*, Iowa, *Macbride*, *Fitzpatrick*; Ohio, *Morgan*, *Lloyd*; District of Columbia, *James*; Pennsylvania, *Everhart*; Louisiana, *Langlois*; Canada, *Dearness*. Atkinson, in his Studies of American Fungi, discusses the species at length and gives two illustrations of it from original photographs.

4. *Grifola ramosissima* (Scop.)

*Boletus ramosissimus* Scop. Carn. ed. 2. 2: 470. 1772. — Schaeff. Fung. pl. III. 1763.

*Boletus umbellatus* Pers. Syn. 519. 1801.

*Polyporus umbellatus* Fr. Syst. 1: 354. 1821.

*Cladomeris umbellata* Quél. Enchiridion, 167. 1886.

*Cladomeris ramosissima* Murrill, Jour. Myc. 9: 95. 1903.

This species closely resembles *G. frondosa* in size, habit and general structure, but the pileoli are centrally attached and circular in form instead of dimidiate and spatulate. It is likewise much rarer than *G. frondosa* both in this country and in Europe. Persoon's name seems a very appropriate one, but it is antedated by that of Scopoli. Quélet used this species in establishing his genus *Cladomeris*, a synonym of *Grifola*. In America, the plant is reported but rarely. Atkinson found it at Ithaca and refers to it in his Studies of American Fungi. Specimens are at hand from Pennsylvania, *Everhart*; Connecticut, *Underwood & Earle*; and Ohio, *Lloyd*; the last accompanied by a fine protogravure of the entire living plant.

##### 5. *Grifola Berkeleyi* (Fr.)

*Polyporus Berkeleyi* Fr. Nov. Symb. 56. 1851.

*Polyporus subgiganteus* Berk. & Curt. Grevillea, 1: 49. 1872.

*Polyporus Beatiei* Peck, Rept. N. Y. State Mus. Nat. Hist. 30: 36. 1878.

This species was described from a single pileolus sent to Fries from Curtis' North Carolina collections. It fully warrants the expression used by Fries in describing it: "Nobilissimus inter omnes mihi cognitos Polyporos." I have seen plants two feet in width and over a foot high, with several lobes six to nine inches in diameter. They usually grow under oak trees, often between the enlarged bases of the main roots, and are in close connection with some supply of humus, either from buried wood or very rich leaf-mould. The surface of the pileus is light yellowish-brown, darker toward the center, the tubes irregular, light yellowish-brown, fragile and somewhat toothed. It is easily distinguished from its American allies by the size, color and breadth of its lobes. *Polyporus Beatiei* Peck and *Polyporus subgiganteus* [B. & C. are not specifically distinct. The former was collected in Maryland and well described in manuscript by Miss Banning; the latter is represented at Kew by a single pileolus collected by Wright in Connecticut.

Specimens are at hand from Massachusetts, *Banker*; Canada, *Dearness*; Missouri, *Demetrio*; Ohio, *James, Lloyd*; West Virginia, *Nuttall*; Pennsylvania, *Everhart*; New York, *Banker*; Virginia, *Murrill*. Lloyd's photogravures 23 and 24 exhibit the appearance and habit of the living plant most accurately and beautifully. It seems fitting that this magnificent plant should be so well represented. It is also appropriate that it should bear the name of a man who has done so much for American mycology.

#### 6. *Grifola fractipes* (B. & C.)

*Polyporus fractipes* B. & C. Grevillea, 1: 38. 1872.

Little is known of this species beyond the collections of Curtis and Ravenel in South Carolina and an occasional plant reported from adjoining states. The specimens at hand are better developed than those at Kew, with older and larger pores, and show a close relationship rather with species of *Grifola* than *Polyporus*. Although the stipe is not branched in these specimens, it is distorted and tubercular at the base as though united with other pilei that were as yet immature. So far as the general structure of context and hymenium goes the species exhibits very close similarity with typical *Grifola* forms.

#### SPECIES INQUIRENDÆ

*Polyporus anax* Berk. Grevillea, 12: 37. 1883. Described from Ohio. Apparently not specifically distinct from *G. frondosa*.

*Polyporus lactifluus* Peck, Bull. Torrey Club, 8: 51. 1881. Described from dried material and notes sent by Miss Banning from Maryland. It seems different from *G. Berkeleyi* only in having milky juice, a character possessed by other members of this genus and probably present in *G. Berkeleyi* in its young stages.

#### *Romellia* gen. nov.

Hymenophore large, irregular, annual, spongy to corky, epixylous; stipe simple, variously attached, surface of pileus anoderm, hispid; context ferruginous, tubes irregular, thin-walled, spores ellipsoidal, smooth, hyaline, cystidia none.

The type of this genus is *Boletus sistotremoides* Alb. & Schw., better known as *Polyporus Schweinitzii* Fr. The plant is a large and striking one, quite common in Europe and America, and has

figured under several genera since it was first described as a *Boletus*. Soon after being transferred to *Polyporus*, it was assigned to *Daedalea* because of its irregular pores, then to *Polystictus* because it seemed nearly allied to *P. perennis*. Quélet, however, overlooked this relationship and classified it under *Cladomeris* with *Polyporus frondosus*, *P. imberbis*, etc., largely on account of its hyaline spores. The species may be easily confused in some of its forms with *Polyporus hispidus*, but its normal form is stipitate, while *P. hispidus* is always dimidiate and the spores of the former are hyaline while those of the latter are of a deep golden hue. From the genus *Coltricia*, apparently its nearest ally, it differs in having hyaline spores, a more spongy context, differently colored tubes and a very variable stipe.

I take pleasure in dedicating this genus to my friend Lars Romell, the distinguished mycologist of Stockholm, Sweden.

**Romellia sistotremoides** (Alb. & Schw.)

*Boletus sistotremoides* Alb. & Schw. Conspec. Fung. 243. 1805.

*Polyporus Schweinitzii* Fr. Syst. Myc. 1: 351. 1821. Icon. pl. 179. f. 3. 1870.

*Daedalea epigaea* Lenz, Schwäm. 62. 1831.

*Polyporus tabulaeformis* Berk. Lond. Jour. Bot. 4: 302. 1845.

*Polyporus spectabilis* Fr. Nov. Symb. 48. 1851.

*Polyporus hispidioides* Peck, Rept. N. Y. State Mus. Nat. Hist. 33: 21. 1880.

*Polystictus Schweinitzii* Karst. Rev. Myc. 3: 18. 1881.

*Cladomeris Schweinitzii* Quél. Enchiridion, 169. 1886.

The description of this fungus as given by the original authors is sufficiently clear and complete and the plant is so well known as to require little comment upon its appearance and structure. On account of its exceeding variability, well-known mycologists, such as Fries, Berkeley and Peck, have been led to rename it in certain of its forms. *P. tabulaeformis*, for example, is an old plant of *P. Schweinitzii* from Augusta, Georgia, sent to Berkeley by Wray, while a similar specimen sent by Curtis from North Carolina to Fries received the name *P. spectabilis*, the type of which still exists at Upsala. Fries was deceived by the firm, corky substance and very changed aspect of the plant in its older stages.



Peck was led to separate the rather rare dimidiate form of this species found on the trunks of trees under the name *P. hispidioides*, because of its resemblance to *P. hispidus*.

All of these forms and others which have received no distinct names seem to grade imperceptibly into one another, so that their separation would seem impossible even if desirable. The plant is an illustration of one of those unsettled types found more than once in this family which are blessed with overflowing exuberance of vitality and have several ways of expressing it. Thus, for example, while it usually attacks coniferous trees it may also be found on deciduous wood; while occurring commonly on the roots or at the base of its host, it may ascend to a height of fifty feet on the trunk, and while usually central-stemmed, the stipe may be lateral or even wanting. It is a very fine, large, highly-colored plant, well-known for its destructive effects upon coniferous trees both in Europe and America. Specimens nearly two feet in diameter were collected the past summer on the roots of larch trees at Mendel Pass in the Italian Tyrol.

According to Schrenk, who has studied the species in New England, the fruit bodies appear in July and August and are greedily devoured by beetles soon after the spores are matured. During the discharge of the spores, drops of a yellow liquid were collected by him from the hymenium, which were found to contain certain fungous sugars. It is probable that these sugars have something to do with the distribution of the spores among the roots of new host plants.

Some of the localities where this widely distributed fungus has been collected are given below. It is not rare in Asia and Europe and seems even more abundant in North America: Finland, *Karsten*; England, *Plowright*; Tyrol, *Bresadola & Murrill*; Newfoundland, *Waghorne*; Canada, *Macoun*; Vermont, *Burt*; Connecticut, *White*; New York, *Earle, Peck*; New Jersey, *Ellis*; Delaware, *Commons*; Oregon, *Carpenter*; Washington, *Macbride*; South Carolina, *Shear*; Louisiana, *Langlois*; Alabama, *Earle & Baker*; Mexico, *Smith*.

COLTRICIA S. F. Gray, Nat. Arr. Brit. Pl. 1: 644. 1821.

*Strilia* S. F. Gray, Nat. Arr. Brit. Pl. 1: 645. 1821.

*Polystictus* Fr. Nov. Symb. 70. 1851.

*Pelloporus* Quél. Enchiridion, 166. 1886.

*Mucronoporus* Ell. & Ever. Jour. Myc. 5: 28. pl. 8. 1889.

*Onnia* Karst. Finlands Basidsv. 326. 1889.

*Xanthochrous* Pat. Cat. Tun. 51. 1897.

The genus *Coltricia* was established by S. F. Gray in 1821 upon three species, *C. connata*, *C. nummularia* and *C. leptoccephala*. The first, which is considered the type of the genus, is the *Boletus perennis* of Linnaeus, a well-known plant of wide distribution, placed under the genus *Polystictus* in Saccardo's Sylloge. The other two are typical species of the genus *Polyporus* in the narrowest sense. Gray placed them in *Coltricia* because they had the "stem central, cap orbicular, umbilicate, membranaceous," while important differences in structure were disregarded. The genus *Strilia*, based on *S. cinnamomea* (Jacq.), has no claim to distinction and was evidently erected through error or lack of proper material.

The genus *Polystictus*, separated as an experiment by Fries in 1851, is based on *Polystictus parvulus*, a close ally of *P. perennis*, and must therefore stand as a synonym of *Coltricia*.

The genus *Pelloporus* included *P. perennis*, *P. tomentosus* and other allied species with corky or coriaceous context, ferruginous substance and spores and terrestrial habits. The first species listed is *P. triqueter*, a wood-loving form of *P. circinatus*, in which the stipe has become lateral and rudimentary. In a former article (Jour. Myc. 8: 95. 1903), *P. triqueter* was considered more nearly related to *P. radiatus*, which also has a spiny hymenium and grows on tree-trunks, and the genus *Pelloporus* was there treated as a synonym of *Inonotus* Karst. Since the proper position of *P. triqueter* is determined *Pelloporus* must now be considered synonymous with *Coltricia*.

The genus *Mucronoporus* was based on *M. circinatus*, *M. dualis*, *M. tomentosus* and nine other species quite different in structure from the three mentioned, but resembling them in having a spiny hymenium, which was the distinguishing feature of the genus. In observing this feature exclusively, a number of other species, as varied an assortment as the family affords, have been since added to the original twelve. The genus *Onnia*, with the same distinctive character as *Mucronoporus*, was established later in the same year upon *Onnia circinata* and *Onnia tomentosa* and

is therefore a synonym of *Mucronoporus* and *Coltricia*. As to the standing of such genera as *Hymenochaete* and *Mucronoporus*, based solely on the presence of cystidia, opinion has been divided, but a brief study of various forms will show that this character is possessed exclusively by no one group of fungi and that it varies abundantly even within the limits of a single species. It often affords a convenient clue to the identification of species, but should be accompanied by stronger and more permanent characters in the separation of genera.

The species of the present genus are terrestrial or wood-loving plants found in dry soil in woods or attached to decayed sticks or roots beneath the ground or growing at times upon much-decayed logs and stumps. Some of the species have a peculiar fondness for places where fires have been built; others are able to adapt themselves to very varied localities, growing now upon rich soil and again upon dead standing tree-trunks. In appearance, they are usually circular, central stemmed, brownish plants with rusty context and spores and a brown hymenium, which is covered with a yellowish or whitish powder when young. Cystidia are rarely present. The consistency of the pileus varies from coriaceous to spongy and the surface from concentrically zonate to smooth. As to distribution, the members of the genus are about equally divided, half of them being cosmopolitan and the other half local. The smallest plant of the group is *C. cinnamomea*, the largest *C. Memmingeri*, a new species known from one locality only.

#### Synopsis of the North American species

1. Pileus concentrically zonate, context thin. 2.  
Pileus azonate, context rather thick and spongy. 4.
2. Pileus shining cinnamon, strigose, striate, thin, flexible, slightly depressed, the margin often fimbriate or pseudo-ciliate. 1. *C. cinnamomea*.  
Pileus dull rusty cinnamon to hoary, velvety to glabrous, deeply depressed, the margin thicker and less fimbriate. 3.
3. Tubes small, 0.5 mm. or less in diameter. 2. *C. perennis*.  
Tubes large, 1 mm. in diameter. 3. *C. parvula*
4. Context homogeneous, hymenium free from spines. 5.  
Context duplex, soft above and woody below, hymenium beset with spines. 4. *C. tomentosa*.
5. Pileus ferruginous to fulvous, 5 cm. in diameter, surface finely tomentose, stipe swollen and soft at the base. 5. *C. obesa*.  
Pileus darker, fulvous to chocolate-colored, 10 cm. in diameter, surface rough and shaggy, stipe scutate and firm at the base. 6. *C. Memmingeri*.

1. *Coltricia cinnamomea* (Jacq.)

- Boletus cinnamomeus* Jacq. Collect. 1: 116. pl. 2. 1786.  
*Strilia cinnamomea* S. F. Gray, Nat. Arr. Brit. Pl. 1: 645. 1821.  
*Polyporus oblectans* Berk. Lond. Jour. Bot. 4: 51. 1845.  
*Polyporus splendens* Peck, Rept. N. Y. State Mus. Nat. Hist. 26: 68. 1874.  
*Polyporus subsericeus* Peck, Rept. N. Y. State Mus. Nat. Hist. 33: 37. 1880.  
*Polystictus cinnamomeus* (Jacq.) Sacc. Michelia, 1: 362. 1878.—  
 Atkinson, Stud. Amer. Fungi, 192. f. 182. 1900.

This species appears to be truly cosmopolitan, being found in both hemispheres in tropical as well as in temperate regions. In habitat it differs from its nearest American allies in growing more commonly on mossy soil or much-decayed wood and rather sparingly on sandy soil, thus showing a preference for almost pure humus rather than for sterile soil very poor in humus. In appearance it is small, slightly depressed, silky and shining, well deserving the name, *P. splendens*, assigned to it by Peck. Its first name, however, refers to its cinnamon color and dates back to the days of Jacquin, who received it from Westhofen in the month of September. His description plainly refers to our plant:

“Totus cinnamomeus, etiam in substantia interna. Stipes solidus, teres, villosulus, plus minus uncialis, erectus, calamo gracilior. Pileus in centro infundibuliformis, in limbo planus, lineam unam alteramve crassus, diametri uncialis, supra sericeus nitidus et ad tactum holoserici adinstar mollis, subtus poris angulatis totus refertus. Sponte exiccatus colorem servat, nec putrefecit, fragilis dumtaxit evadit, et parumper limbo crispatur. Crescit inter muscas in humo udo.”

Only two characters in this description need comment. While the species is usually slightly depressed, it is sometimes more or less infundibuliform, as our own plants show, and Jacquin seems to have got some of the latter kind. The term *fragilis* seems to have been incorrectly or rather freely used. Fries questions its correctness, while S. F. Gray stumbles over it into erecting the genus *Strilia*, which differs from *Coltricia* only in being fleshy instead of membranaceous.

*P. oblectans* was described from Australian material. Berkeley's description, though unusually complete, does not differ materially from that of Jacquin and the type plants cannot be distinguished from American specimens. Soon after Peck named the

American plant Cooke referred it to *P. oblectans*, while Peck soon discovered that *P. splendens* was preoccupied by a Brazilian species and changed the name to *P. subsericeus*.

The following American exsiccati are in the New York Botanical Garden herbarium: Canada, *Dearness*; Iowa, *Holway*; Maine, *White*; Connecticut, *Underwood & Earle*; New York, *Peck*, *Lobenstein*, *Earle*, *Gerard*; New Jersey, *Ellis*; Pennsylvania, *Everhart*, *Barbour*; Ohio, *Morgan*; West Virginia, *Nuttall*; Georgia, *Underwood*, *Stevenson*; Alabama, *Earle*; Colorado, *Underwood & Selby*.

2. COLTRICIA PERENNIS (L.) Murrill, Jour.

Myc. 9: 91. 1903.

*Boletus perennis* L. Sp. Pl. 1177. 1753.—Sowerby, Eng. Fung. pl. 192. 1799.

*Boletus coriaceus* Scop. Fl. Carn. ed. 2. 2: 465. 1772.—Bull. Herb. France, pl. 28. 1780.

*Boletus subtomentosus* Bolt. Hist. Fung. 2: 87. pl. 87. 1788.

*Boletus confluens* Schum. Saell. 2: 378. 1803.

*Polyporus perennis* Fr. Syst. Myc. 1: 350. 1821.

*Coltricia connata* S. F. Gray, Nat. Arr. Brit. Pl. 1: 644. 1821.

*Polystictus perennis* Karst. Rev. Myc. 3: 18. 1881.

*Pelloporus perennis* Quél. Enchiridion, 166. 1886.

This species appears to be common throughout the northern hemisphere in temperate regions, occurring in woods on dry exposed soil, especially where fires have been kindled, or rarely in moss or leaves. When young, it is ferruginous-cinnamon in color with punctiform tubes and thin substance; as it grows older the pileus becomes more depressed, the tubes longer and more decurrent, the sterile marginal band disappears and the whole plant appears thicker and firmer; in age the color becomes hoary, the zones are more marked, much of the tomentum disappears and the tubes and margin become more or less fimbriate. These changes often appear very marked when collections made in autumn are placed beside those of midsummer.

The present species is at once distinguished from *C. parvula* by its much smaller tubes and from *C. cinnamomea* by its larger size, more deeply depressed center and less shining surface. Specimens have been examined for the principal herbaria and published

exsiccati, among which the following will indicate the distribution of the species: Finland, *Karsten*; Sweden, *Starbäck*; Saxony, *Krieger*; Hungary, *Linhart*; Belgium, *Westendorp & Wallays*; France, *Fautrey*; England, *Massee, Plowright*; Canada, *Macoun*; Maine, *Blake, Harvey, Ricker, Macdougall*; Massachusetts, *Fursten*; Washington, *Macbride*; Wisconsin, *Calkins*; Michigan, *Minns*; Minnesota, *Holway*; New York, *Shear, Peck*; New Jersey, *Ellis*.

### 3. *Coltricia parvula* (Kl.)

*Polyporus parvulus* Kl. Linnaea, 8: 483. 1833.

*Polyporus connatus* Schw. Trans. Am. Phil. Soc. 4: 154. 1834.

*Polystictus parvulus* Fr. Nov. Symb. 70. 1851.

*Polyporus focicola* B. & C. Jour. Linn. Soc. Bot. 10: 305. 1868.

This species was described from plants in the Hooker herbarium collected by Dr. Richardson in America. Klotzsch had hardly published his description before Schweinitz described the same plant under the name *Polyporus connatus*. When Fries established the genus *Polystictus*, this species was listed first, thus becoming its nomenclatorial type. Later it was renamed *P. focicola* by Berkeley and Curtis, the reason not being assigned. The plant occurs only in North America and is confined, so far as is known, to the states south of Massachusetts. As with *C. perennis*, it usually grows on earth mixed with ashes and charcoal from fires built in woods.

There is no difficulty in distinguishing it from *C. perennis* except in middle ground occupied by both species, where they have a tendency to approach each other in varieties. There can be no doubt that the two species are intimately related in origin and the inference is that *C. parvula* is an offspring of the cosmopolitan species induced by conditions existing at one time in the more southern parts of North America. They are at present, however, so distinct that a plant collected in Georgia may with little hesitation be called *C. parvula*, while one from Canada may with equal certainty be labeled *C. perennis*. The following collections of *C. parvula* are at hand: North Carolina, *Curtis*; South Carolina, *Ravenel*; Georgia, *Harper*; Alabama, *Earle*; Delaware, *Commons*; Pennsylvania, *Everhart, Jeffries & Haines*. In every instance the collection was made on soil where fires had been built.

4. *Coltricia tomentosa* (Fr.)

*Polyporus tomentosus* Fr. Syst. Myc. 1: 351. 1821.

*Polyporus dualis* Peck, Rept. N. Y. State Mus. Nat. Hist. 30: 44. 1878.

*Pelloporus tomentosus* Quél. Enchiridion, 166. 1886.

*Macronoporus tomentosus* Ell. & Ever. Journ. Myc. 5: 28. 1889.

*Onnia tomentosa* Karst. Finlands Basidv. 326. 1889.

*Xanthochrous tomentosus* Pat. Cat. Tun. 52. 1897.

This species has frequently been collected by North American mycologists, but has rarely been correctly determined by them. Some European botanists are no less confused by the two Friesian species, *P. tomentosus*, described in 1821 and *P. circinatus*, described in 1848. At Upsala there is no type specimen of the latter species, while types of *P. tomentosus* correspond in all respects with our common species, the hymenium bearing the same kind of spines and the context being dual instead of homogeneous. Indeed, I have seen nothing in any foreign herbarium to indicate that *P. circinatus* is specifically distinct from *P. tomentosus*.

This fungus usually grows on or near the ground beneath pines, spruces and other coniferous trees. Collections are at hand from Bavaria, *Allescher*; Sweden, *Romell*; Canada, *Macoun*; Maine, *Curtis*; New Hampshire, *Minns*; Vermont, *Burt*; Massachusetts, *Clarke*; Pennsylvania, *Stevenson*; New York, *Peck*; New Jersey, *Ellis*; West Virginia, *Nuttall*; Colorado, *Underwood & Selby*.

5. *Coltricia obesa* (Ell. & Ever.)

*Polystictus obesus* Ell. & Ever. Bull. Torrey Club, 24: 125. 1897.

This species was collected at Newfield, New Jersey, and at Philadelphia, Pennsylvania, growing on buried pine branches. It is thick and spongy in texture, depressed, rusty cinnamon, azonate, with dark cinnamon stipe, which is central and usually much enlarged below. The spores are elliptical, ferruginous,  $7-8 \times 4-5 \mu$ . No spines are present. The plant resembles *Coltricia perennis* in color, but is larger, thicker, more fragile and entirely free from zones. From *C. tomentosa*, it differs in being darker in color, homogeneous in texture and free from cystidia. Type specimens are now in the herbarium of the New York Botanical Garden.

6. *Coltricia Memmingeri* sp. nov.

A large dark brown plant with rough shaggy surface and short thick stipe much dilated at the base. Pileus very irregular, circular to dimidiate, convex to plane or depressed,  $10 \times 1$  cm.; surface fulvous to dark seal brown, ornamented with long imbricated scales of the same color, margin alutaceous, pubescent, sterile, subacute, undulate: cortex corky, fragile, azonate, 0.5–1 cm. thick, thinner towards the margin, concolorous; tubes adnate, 1–4 mm. long, 1–3 to a mm., umbrinous, apparently blackening with age, mouths circular and whitish when young, becoming angular, irregular and concolorous or darker with age, dissepiments entire to dentate: spores ovoid, smooth, light ferruginous, usually 2-guttulate,  $4 \times 7 \mu$ ; hyphae golden-yellow; cystidia none; stipe central or excentric, at times confluent, very short, thick, angular or flattened, dilated at the base to twice its thickness above, resembling the pileus in color, surface and substance,  $1-3 \times 3-5$  cm.

The above description was made from specimens collected at Blowing Rock, North Carolina, by Mr. E. R. Memminger, September 1, 1901, and sent to the Underwood herbarium. According to the accompanying field notes, it is a rare species and one of peculiar habits, being found on steep clay banks with its short stipe broadly spreading at the base, reminding one of a sea-anemone, and its pileus irregular and deformed by the steepness of its habitat and soaked with moisture from the wet clay soil and the surface water that trickles past it. In some ways it suggests forms of *P. Schweinitzii*, but differs widely in the color of its tubes and spores as well as in its shaggy surface and peculiar stipe. In many ways it forms a climax to the series which begins with *C. cinnamomea* and ends with *C. obesa*, the plants increasing in size, thickness, irregularity, variability and roughness as one proceeds.

I take pleasure in dedicating the species to its discoverer, Mr. Memminger. The type plants are now in the herbarium of the New York Botanical Garden.

## SPECIES INQUIRENDÆ

*Polyporus simillimus* Peck, Rept. N. Y. State Mus. Nat. Hist. 32: 34, 1879. This species was based on plants collected at Brewerton, New York, on burnt soil where *C. parvula* grew. It is said to closely resemble *C. parvula* when looked at from above, but



to have much smaller tubes and slightly longer spores, which are tinged with red at times. It is also very close to old plants of *C. perennis* collected in autumn. Additional collections should decide whether it is a good species or only a variety, as it was first considered by Peck.

**Coltriciella** gen. nov.

Hymenophore small, annual, tough, epixylous; stipe attached to the vertex of the pileus; surface of the pileus anoderm, zonate; context spongy, fibrous, ferruginous, tubes angular, one-layered, dissepiments thin; spores ellipsoidal, smooth, ferruginous.

The type of this genus is *Polyporus dependens* B. & C., a very rare plant found thus far only on dead pine logs in South Carolina and New Jersey. In some ways it resembles the genus *Porodiscus*, the species of both being small and epixylous with vertically attached stipes, but the two genera are very distinct as regards more important characters, such as the structure of the context and spores. From *Coltricia*, its nearest ally, the present genus differs chiefly in being uniformly epixylous and in having a pendant vertically-attached pileus. The name I have chosen refers to its general resemblance to *Coltricia*, this resemblance being best seen in *Coltricia cinnamomea*, which grows very frequently on wood in a state of advanced decay. Only one species is known.

**Coltriciella dependens** (B. & C.)

*Polyporus dependens* B. & C. Ann. Nat. Hist. II. 12: no. 44. 1853.

Grevillea, 1: 37. 1872.

*Polystictus dependens* Sacc. Sylloge Fung. 6: 213. 1888.

This very rare and interesting little fungus was first collected by Curtis in South Carolina on decorticated pine wood lying on the ground. It has since been found at Newfield, New Jersey, once under a decaying oak log and twice on a dead pine. The first of these collections on pine seems to have been quite abundant, since there are still in the Ellis collection about twenty-five specimens of it. Ellis says that they grew from the upper surface of the hollow in a rotten log, where they were found on July 30, 1883. On April 21, 1890, Dr. F. W. Anderson discovered a few plants growing on a rotten pine knot near Newfield. I am inclined to think that the collection made under the dead oak log was really growing on chips or sticks of pine.